CALIFORNIA STATE BOARD OF HEALTH.

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VITAL STATISTICS FOR OCTOBER.

Summary.—For October, vital statistics were reported from all except four of the fifty-seven counties in California. The population in 1905 has been estimated conservatively according to the Census Bureau method by adding to the population in 1900 five tenths of the increase between 1890 and 1900, except that for the few counties showing decreases between the last two Federal censuses the population in 1900 has been taken for 1905 and for some leading cities arbitrary estimates have been made because of their exceptionally rapid growth. For fifty-three counties with a population, thus estimated, of 1,678,124 there were reported 1,873 living births, 2,117 deaths exclusive of stillbirths not tabulated, and 1,464 marriages, or 2,928 persons married. These figures represent an annual birth-rate of 13.1, a death-rate of 14.9, and a marriage-rate of 10.3, or 20.6 persons married, per 1,000 population.

In "Greater San Francisco," or the metropolis together with Oakland, Berkeley, and Alameda, the proportion of all deaths caused by such complaints as heart disease and diarrhœa and enteritis is considerably above the average proportion for California as a whole. For the rest of the State, on the contrary, the proportion of all deaths due to certain causes is above the general average for epidemic diseases, nervous diseases like meningitis, apoplexy, and paralysis, and deaths from various forms of violence—suicides, drowning, and accidental injuries.

In October, as usual, tuberculosis was the leading specific cause of death in California. It is significant, however, that about one ninth (11.4 per cent) of the victims of this disease had lived in the State less than a year. Of the native Californians who died of tuberculosis, about one third were less than, and two thirds were at least, 15 years old.

Causes of Death.—The table below gives the number of deaths reported for October, by main headings of the International Classification, for California as a whole and also for "Greater San Francisco" or the metropolitan area (San Francisco and the three transbay cities) in contrast with all the rest of the State. For convenience in comparison, there is likewise shown the proportion of deaths from each class per 10,000 from all causes:

Class.	Number.			Proportion per 10,000.		
	California.	Metropolitan Area.	Rest of State.	California.	Metropolitan Area.	Rest of State.
ALL CAUSES	2,117	800	1,317	10,000	10,000	10,000
General diseases	653	243	410	3,085	3,038	3,113
Epidemic diseases	128	34	94	605	425	714
Other general diseases	525	209	316	2,480	2,613	2,399
Nervous System	190	56	134	898	700	1,017
Circulatory System	243	110	133	1,148	1,375	1,010
Respiratory System	184	67	117	869	838	888
Digestive System	261	115	146	1,233	1,438	1,109
Genito-urinary System	153	66	87	723	825	661
Childbirth	23	6	17	108	75	129
Skin diseases	6	4	2	28	50	15
Locomotor System	4	3	1	19	37	8
Malformations	20	12	8	94	150	61
Early Infancy	67	38	29	317	475	220
Old Age	63	21	42	298	262	319
Violence	194	52	142	916	650	1,078
Ill-defined diseases	56	7	49	264	87	372

The table shows that in California as a whole about one fourth of all deaths were due to other than epidemic general diseases, the class including tuberculosis and cancer, and about one eighth were caused by diseases of the digestive system, including diarrhœa and enteritis. The next largest proportions were from diseases of the circulatory system, violence, diseases of the nervous system, of the respiratory system, of the genito-urinary system, and epidemic diseases, in the order named.

There are marked differences between "Greater San Francisco" (the metropolis together with Oakland, Berkeley, and Alameda) and the rest of the State in the relative importance of the different classes of diseases. Thus, considering only the most striking contrasts, one finds that in the metropolitan area the proportion of deaths was much above the average for California as a whole for diseases of the circulatory system and of the digestive system, in which the principal specific diseases are respectively heart disease and diarrhœa and enteritis. In the rest of the State, on the other hand, the proportion was above the general average, especially for epidemic diseases such as typhoid, malaria, whooping-cough, and diphtheria and croup, for diseases of the nervous system, including meningitis, apoplexy, and paralysis, and for violence, comprising suicides, drowning, and accidental injuries.

The following table shows for California as a whole the number of deaths from the leading specific diseases, as well as the proportion per 10,000 from all causes:

Disease.	Number.	Population.
ALL CAUSES	2,117	10,000
Tuberculosis	299	1,412
Heart disease	184	869
Pneumonia	127	600
Cancer	119	562
Diarrhœa and enteritis	112	529
Bright's disease	106	501
Apoplexy	94	444
Accidental injuries	75	354
Old age	63	298
Typhoid fever	52	246
Suicides	42	198
Meningitis	33	156
Premature birth	33	156
All others	778	3,675

As usual, tuberculosis was the main cause of death, with heart disease next in order. It is significant, however, that a considerable proportion of those who died of tuberculosis in California were only recent residents of the State. This appears from the following table, showing the length of residence in California of the 299 victims of tuberculosis:

Length of Residence.	Number.	Per cent.
TOTAL	299	100.0
Under 1 year	34	11.4
Under 1 month	8	2.7
1 to 2 months	9	3.0
3 to 5 months	7	2.3
6 to 11 months	10	3.4
1 to 4 years	31	10.4
5 to 9 years	19	6.3
10 years and over	95	31.8
Life	95	31.8
Unknown	25	8.3

The table shows that of the 299 persons who died of tuberculosis in California in October, 8 had been in the State less than a month, 9 had lived here only one or two months, and altogether 24 or 8.0 per cent of the total had resided here less than six months, while an aggregate of 34 or 11.4 per cent had been residents of the State less than a year. It may be noted that of the 95 native Californians who died of tuberculosis, 33 were less than 15 years old and 62 were at least 15 years of age.

STATE HYGIENIC LABORATORY.

The last Legislature enacted a law establishing a State Hygienic Laboratory at the State University, Berkeley, for bacteriological and chemical analyses, under the management of the State Board of Health. The bacteriological department is equipped and ready and anxious for work which will be of aid to the health officers and physicians of the State. Containers in which to mail different pathological products will be sent, upon application, to any part of the State. Upon receipt of the specimen to be examined at the laboratory, together with the card which accompanies each, properly filled, the work will be done at once, and report made by mail or telegraph as requested. Already many health officers have availed themselves of the laboratory to verify the diagnosis of diphtheria and typhoid. We have also water-containers, which will be sent to any health officer who wishes to have a sample of water examined. In order to have samples arrive in such a condition

that an examination will be of value, the directions in the containers must be studied and closely followed.

Owing to the limited appropriation we have not been able to fully equip the chemical department, but arrangements have been made with Prof. M. E. Jaffa of the University, whereby a certain number of food analyses will be made.

We hope that the health officers throughout the State will avail themselves of this laboratory, as it can be made a valuable aid in clearing up doubtful diagnoses and suppressing epidemics, in preserving the purity of our streams, wells, and lakes which furnish domestic water supplies, and in spreading information regarding adulterated food.

NOTICE CONCERNING THE STATE HYGIENIC LABORATORY.

There are ready for distribution mailing cases for collecting specimens for laboratory examinations for diphtheria, typhoid fever, and tuberculosis. The services of the laboratory, in examining material for these diseases, are free to physicians who do not have the privilege of municipal laboratory service.

In order that the mailing cases may be available for the use of as large a number as possible, it is desirable that a supply of them be kept in drugstores. This is especially necessary in the case of the diphtheria outfits, which must be exchanged for fresh ones when the blood serum becomes dry. Experience elsewhere has shown that druggists readily consent to this and that the system is a convenient one for both the laboratory and the practitioner. Health officers or other physicians desiring to use the laboratory are requested to make such arrangements with a local druggist, and to notify the laboratory to that effect. When such a plan is not practicable, mailing cases will be sent direct to applicants. Containers will be sent, charges collect, in each instance, as funds are not available for express charges.

Laboratory reports are particularly useful in diphtheria epidemics. When a mild incipient case is encountered, the physician may suspect, or even be quite certain, that he has a case of diphtheria. Nevertheless, he will hesitate to give a diagnosis which will necessitate a quarantine. He may then take a swab and mail it to the laboratory as letter mail. The report will be made by telegraph, if desired, and if the report is positive the health officer will also receive a report by mail from the laboratory. Under such circumstances a quarantine may be established with greater confidence than otherwise.

Examination of Water.—Upon request of the health officers, the State Hygienic Laboratory is prepared to make bacteriological examinations of water samples with reference to sewage pollution. Such examinations are worthless unless samples are collected in sterilized containers, with an observance of strict precautions. A special shipping case, together with directions for collecting and shipping samples, will be sent upon application. Bacteriological examinations of water submitted in containers other than those supplied by the laboratory can not be made. These shippings cases are expensive and the supply is limited. Hence it is necessary to require immediate return to the laboratory.

The examination of water for typhoid-fever bacteria is too difficult and unsatisfactory for routine work. Reports will be made upon the existence of sewage pollution emanating from man or animal.

A. R. WARD, Director.

ADULTERATED BUTTER.

The following report has been received from Prof. M. E. Jaffa, Food Laboratory, State University, Berkeley:

We had a sample of so-called butter sent to us, which was made by taking a pound of butter and a pint of milk and adding thereto some compound, with the idea that there would result two pounds of butter. The analysis of the material, as received, is as follows:

	Per cent.
Water	52.57
Fat	44.56
Casein, etc.	2.45
Ash	.42
	100.00

A good butter contains about 85 per cent fat. In two pounds of butter there should be about 27 ounces of fat, while the fat-content of two pounds of the material, similar in composition to the above, would be less than 16 ounces, so it can immediately be seen the difference in the nutritive value alone between good butter and the material given us for examination.

The University can not authorize or sanction the manufacture of such a mess, "which is neither good butter nor poor cheese."

Butter fat can not be made in any such manner by such nostrums, and the manufacture of the so-called butter in such a manner is a rank fraud, and should be so treated.

EXAMINE WATER SUPPLY IN TYPHOID CASES.

The health officers and physicians of the State are earnestly requested, whenever typhoid fever appears, to send to the State Hygienic Laboratory at Berkeley for a container, and to have the water supply examined. While other ways for the spread of this disease are recognized, such as flies, insects, personal contact, dust, etc., still water is doubtless the great carrier. Even if the milk supply is at fault, the infection generally gets to the milk through the water. Examinations are made free of charge, and by finding the source of the disease it is frequently possible to prevent an epidemic.

PUBLIC HEALTH ASSOCIATION.

The California Public Health Association held its semi-annual session in San Francisco on October 28th. Dr. Edward von Adelung of Oakland, President of the Association, cordially greeted the members and referred to the magnificent work being done in America in the prevention of disease, and to the importance of such an association.

The first paper, on "Sanitation of Stanford," by Dr. W. F. Snow of Palo Alto, was one of extreme interest and value. He explained, with the aid of maps, the surrounding watersheds, the sources of water supply, drainage and sewage disposal, location of dairies, and the various sources of pollution to which the streams are liable. The geological formation had also been studied so that the source of water supply in each location was known. He outlined the ideal office, and clearly showed the great utility of an active, wideawake health department. It is not always that an epidemic leads to such good results. The

price may have been big, but Stanford will never have another epidemic of typhoid while the present organization exists, and the rest of the State will learn much from its experience and present system.

The discussion of "Contamination of Water Supplies" was opened by a paper by Dr. N. K. Foster of Sacramento. The discussion, which was participated in by many of the members, was instructive and interesting. It brought out the fact of the contamination of our streams, reservoirs, and wells, and the great danger to which the people are exposed. The question was considered of such importance that at the April meeting more time will be given it, so that it can be discussed in all its phases and especially as to means of prevention.

Dr. H. S. Cumming, Passed Assistant Surgeon U. S. Public Health and Marine Hospital Service, gave an interesting and instructive talk on the "Control of Contagious and Infectious Diseases of Aliens arriving in San Francisco." The subject was clearly and forcibly handled and every one was convinced that it would be difficult for any contagious disease to get by the San Francisco inspection.

"Undrawn Fish and Poultry" was the subject of a paper by Dr. F. G. Fay of Sacramento. A synopsis thereof is printed in another article.

The interest shown in the meeting was extremely gratifying, and the papers and discussion showed deep thought and preparation. The attendance, while not large, was in earnest, and much good will result. The State is large and most health officers get but small pay and can not afford the expense of the trip. The advantages to be gained by association and by discussion of sanitary questions are beyond estimate, and every health officer should have the benefit of them, and it would be in the interest of the people if the Legislature should pass a law requiring each health officer to attend, his necessary expenses being paid by the county or municipality served.

DANGER IN UNDRAWN COLD-STORAGE POULTRY.

The question of the healthfulness of poultry that is not drawn at the time of slaughter is of particular interest at this season, and the paper on "Undrawn Fowls and Fish" by Dr. Fay of Sacramento, read at the last meeting of the California Health Association, is timely.

The doctor showed that fowls are killed, sometimes without bleeding, "picked" while dying, and frozen without removing the entrails. He declared that sometimes they are starved for twenty-four hours to clean them of excrement, but frequently are killed with full crops; that decomposition of organic matter begins at once when such matter is deprived of life; that freezing does not entirely stop decomposition, and that when thawing begins the decomposition is very active. The fowls are taken from cold-storage and exposed for sale, the frost being either wholly or partially removed. Many hours elapse from the thawing to the table—a time active in decomposition. He quotes from Bulletin No. 144, U. S. Department of Agriculture, as follows:

> The presence of undigested food and of excrementitious substances in animals which have been killed most certainly favors the tainting of the flesh and general decomposition. The viscera are the first parts to show putrescence, and allowing these to remain within the body can not otherwise than favor infection of the flesh with bacteria and ptomaines.

F. F. Cassady, in "The Dietetic and Hygienic Gazette," says:

The fowl is killed, transported long distances, and kept in a cold-storage warehouse for days and weeks, before being eaten. In the meantime the ptomaines developed in the mass of excrementitious material in the fowl's entrails have infiltrated the entire fleshy portion of the specimen, and made the bird a mass of putrescent, decaying flesh and a deadly poison to the person who eats it. It is just as reasonable for the consumer to buy lambs and calves, intestines included, as to pay for the entrails of chickens and turkeys. As long as the public are willing to put up with such impositions and filthy practices they will exist. In my opinion many hundreds of cases of deaths by poisoning can be traced to ptomaines in the manner indicated, and persons have undoubtedly been wrongfully accused of administering poisons to others, when as a matter of fact the true cause of death was ptomaines. Ptomaine poisoning frequently resembles strychnine poisoning in the severity of its onset and course, and the picture presented in such cases may well deceive even trained observers, especially in the absence of examination for other poisons. The preservation of undrawn poultry in cold storage for food is filthy, unsanitary, and a menace to public health.

The holiday season is upon us, and we will have fowls of this kind offered us and will no doubt partake, and as a result we will have the usual number of holiday cases of indigestion, varying in degree from a severe cramp to the cholera-like trouble which kills.

Watch well the fowls you buy and take none that have been frozen with entrails unremoved.

PURE MILK.

A crusade for pure milk is going on throughout the State, and every one must wish it godspeed. With tuberculosis present in the herds, the dairy building filthy, the milkers oftentimes dirty and diseased, the milk in the cans when being distributed exposed to the dust in the atmosphere, and dangerous quantities of preservatives sometimes in the milk, there is certainly great need for such a crusade. None of these conditions should exist, and the public agitation will, in a measure, lessen them. Milk is a necessary article of diet, and should be furnished pure. It can be, but it depends in no small degree upon the consumer. The producing and selling of milk are commercial, as much as that of flour or cloth, and are governed by the same laws. If one demands a good article he must pay for it. Cheap flour will be made from cheap or dirty wheat, and cheap milk will be supplied from poor cows kept in cheap and unsanitary surroundings and it will be served in dirty containers. To have the corrals clean, the milking-shed whitewashed and free from dust and dirt, the milkers dressed in freshly washed suits, the containers cleaned with steam, and the milk-house free from flies and odors requires an outlay of money for which the owner must get a return. His milk costs more to produce, and therefore he must get a better price. Consumers too often demand cheap milk, and, getting it, find fault that it is poor and soon spoils. This forces the producer to the use of preservatives to keep the cheap milk sweet—a proceeding entirely unnecessary if the milk has been kept clean. If consumers demand good milk they can get it, but it will cost more money.

In every city can be found some dairyman who will be willing to furnish pure and clean milk for a reasonable advance in price. The Oakland Home Club is getting such a milk, the dairyman agreeing to conform to the requirement of the Club, which are those recommended by the United States Bureau of Animal Industry. The dairy is inspected and the cows tested as often as necessary, and an examination of the milk is made frequently. The limit of bacteria is placed at

10,000, but has never come above 3,000, while the ordinary dairyman's milk often goes to 500,000 or 1,000,000. This is the difference between pure milk, which is a nourishing food, and a filthy solution, which is the cause of much of the indigestion and malnutrition in children.

Laws will always be necessary to protect the public against themselves and unscrupulous producers, and should be strictly enforced; but a recognition by the consumers that pure milk is worth more than impure is also necessary.

The care of milk at the home is also an important factor. The milk-pan is sometimes the last dish washed, and, without scalding, is wiped upon a towel that has done service for all the other dishes, and, the milk having been poured in, it is set where flies can take a drink, and even mice occasionally refresh themselves from it. The careless maid may also leave it on the table or shelf while she sweeps the floor, and it catches the dust filled with all kinds of unmentionable filth. The pan should be thoroughly washed with soap and warm water and scalded with boiling water and dried with a *clean* towel. After receiving the milk, one should protect it from the contaminating influence of animals, insects, or dirt, for the dirt allowed to enter after the milk has been received at the house is as bad as that entering it before. Buy pure, clean milk, and keep it clean, and much sickness of children will be prevented.